

CLAIMS

We claim:

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1. A method for reducing the formation and release of an acid gas, comprising the step of:
adding an effective amount of an agent that includes a compound selected from the group consisting of magnesium hydroxide and magnesium oxide to said sewerage or waste water, wherein said sewerage or waste water includes at least one compound which can be reduced to form acid gas.

2. The method, as recited in claim 1, wherein said acid gas includes a compound selected from the group consisting of hydrogen sulfide, mercaptans and butyric acid.

3. The method, as recited in claim 1, wherein said agent is a slurry further including sodium silicate.

4. The method, as recited in claim 1, wherein said agent is a hard alkaline material composite of unhydrated magnesium oxide encapsulated in sodium silicate.

5. The method, as recited in claim 1, wherein the composition is a slurry including:

Ti60X

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Chemical Analysis (loss free basis)

	<u>Wt. %</u>
MgO	about 92-98%
CaO	about .5-3.5%
R ₂ O ₃	about .5-1.5%
insolubles	about .5-3.0%
viscosity, cps	about 500-10,000

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density, lb/gal

about 11.2-11.8

% solids by wt%

about 45-55

5. The method, as recited in claim 1, wherein said agent is substantially continuously added to said sewerage or waste water.

6. A method of controlling odor associated with sewerage or waste water, comprising the step of: adding an effective amount of an agent that includes a compound selected from the group consisting of magnesium hydroxide and magnesium oxide to said sewerage or waste water, wherein said sewerage or waste water includes at least one compound which can be reduced to form acid gas.

7. A method of obtaining a minimal level of hydrogen sulfide and of ammonia in waste water or sewerage, comprising the step of:

5 adding an effective amount of an agent that includes a compound selected from the group consisting of magnesium hydroxide and magnesium oxide to said sewerage or waste water, wherein said sewerage or waste water includes at least one compound which can be reduced to form acid gas.

8. The method of claim 1, wherein said agent is added in an amount effective to reduce hydrogen sulfide levels to no more than 6 parts per million.

9. The method of claim 6, wherein said agent is added in an amount effective to reduce hydrogen sulfide levels to no more than 6 parts per million.

¹⁰
11. The method of claim ~~8~~⁷, wherein said agent is added in an amount effective to reduce hydrogen sulfide levels to no more than 6 parts per million.

¹¹
12. The method of claim 1, wherein said agent is added in an amount effective to maintain pH of said sewerage or waste water between 7.5 and 9.5.

¹²
13. The method of claim ~~7~~⁶, wherein said agent is added in an amount effective to maintain pH of said sewerage or waste water between about 7.5 and 9.5.

¹³
14. The method of claim ~~8~~⁷, wherein said agent is added in an amount effective to maintain pH of said sewerage or waste water between about 7.5 and 9.5.

¹⁴
15. The method of claim 1, wherein said agent is added in an amount effective to maintain pH of said sewerage or waste water between about 8.0 and 9.0.

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16. The method of claim ~~7~~⁶, wherein said agent is added in an amount effective to maintain pH of said sewerage or waste water between about 8.0 and 9.0.

¹⁶
17. The method of claim ~~8~~⁷, wherein said agent is added in an amount effective to maintain pH of said sewerage or waste water between about 8.0 and 9.0.

¹⁷
18. The method of claim 1, wherein said agent is added in an amount effective to maintain pH of about 8.3.

¹⁸
19. The method of claim ~~7~~⁶, wherein said agent is added in an amount effective to maintain pH of about 8.3.

¹⁹
~~20~~. The method of claim ~~8~~⁷, wherein said agent is added in an amount effective to maintain pH of about 8.3.

²⁰
~~21~~. The method of claim 1, wherein lime is also added.

²¹
~~22~~. The method of claim ~~7~~⁶, wherein lime is also added.

²²
~~23~~. The method of claim ~~8~~⁷, wherein lime is also added.

²³
~~24~~. The method of claim 1, wherein said agent is a slurry comprising 30-50% by weight of said magnesium.

²⁴
~~25~~. The method of claim ~~7~~⁶, wherein said agent is a slurry comprising 30-50% by weight of said magnesium.

²⁵
~~26~~. The method of claim ~~8~~⁷, wherein said agent is a slurry comprising 30-50% by weight of said magnesium.

²⁶
~~27~~. The method, as recited in claim 1, wherein the composition is a slurry including:
Physical and Chemical Properties of THIOGUARD™
Chemical Analysis (Dry Basis), wt%

5 MgO about 90-99
CaO about 0.3-4.0
SiO₂ about 0.3-4.0
R²O₃ about 0.1-2.0
Viscosity 800-6000 centipoise;
10 % Solids about 55-65.